WHAT IS CLAIMED IS:

1. A positive electrode active material, comprising:

a layered lithium manganese compound represented by a general formula $Li_{1-x}MO_2$,

wherein the M is manganese or a metal of two or more kinds containing manganese as a main component, and

the x is a lithium-deficient quantity and satisfies the following expression:

$$1/5 < x$$

2. The positive electrode active material according to claim 1,

wherein the x satisfies the following expression:

$$1/5 < x < 1/2$$

3. The positive electrode active material according to claim 1,

wherein the general formula $Li_{1-x}MO_2$ is further represented by a formula $Li_{1-x}Mn_{1-y}M'_yO_2$,

the M' is at least one of metals other than manganese, substituting for manganese (Mn) and y is a substitution quantity thereof,

the x is represented by a ratio of a/b (x = a/b), each of the a and b is a natural number ranging from 1 to 30, and the a and b satisfy: a < b,

the y is represented by a ratio of c/d (y = c/d), each of the c and d is a natural number ranging from 1 to 30, and the c and d satisfy: c < d, and

the lithium manganese compound has a crystal structure with the Li-deficient quantity x and the M' substituting quantity y being regularly adjusted.

4. The positive electrode active material according to claim 2,

wherein the general formula $Li_{1-x}MO_2$ is further represented by a formula $Li_{1-x}Mn_{1-y}M'_yO_2$,

the M' is at least one of metals other than manganese, substituting for manganese (Mn) and the y is a substitution quantity thereof,

the x is represented by a ratio of a/b (x = a/b), each of the a and b is a natural number ranging from 1 to 30, and the a and b satisfy: a < b,

the y is represented by a ratio of c/d (y = c/d), each of c and d is a natural number ranging from 1 to 30, and c and d satisfy: c < d, and

the lithium manganese compound has a crystal structure with the Li-deficient quantity x and M' substitution quantity y being regularly adjusted.

5. The positive electrode active material according to claim 3, wherein the M' is at least one of selected from 3d-transition metals.

6. The positive electrode active material according to claim 4, wherein the M' is at least one of selected from 3d-transition metals.

7. The positive electrode active material according to claim 3, wherein the M' is at least one of iron (Fe) and nickel (Ni).

8. The positive electrode active material according to claim 4, wherein the M' is at least one of iron (Fe) and nickel (Ni).

9. The positive electrode active material according to claim 3, wherein the M' is chromium (Cr).

10. The positive electrode active material according to claim 4, wherein the M' is chromium (Cr).

11. The positive electrode active material according to claim 3, wherein a composition variation range of the x is set within ±5%.

12. The positive electrode active material according to claim 4, wherein a composition variation range of the x is set within ±5%.

13. The positive electrode active material according to claim 3, wherein a composition variation range of the y is set within ±5%.

14. The positive electrode active material according to claim 4,

wherein a composition variation range of the y is set within ±5%.

15. The positive electrode active material according to claim 3, wherein the general formula $Li_{1-x}Mn_{1-y}M'_yO_2$ is further represented by a general formula $Li_{1-x}Mn_{1-y}M'_yO_{2-\delta}$,

where the δ denotes an oxygen-deficient quantity and satisfies the following expression:

$$\delta \leq 0.2$$

16. The positive electrode active material according to claim 4, wherein the general formula $Li_{1-x}Mn_{1-y}M'_yO_2$ is further represented by a general formula $Li_{1-x}Mn_{1-y}M'_yO_{2-\delta}$,

where the δ denotes an oxygen-deficient quantity and satisfies the following expression:

$$\delta \leq 0.2$$

17. The positive electrode active material according to claim 15, wherein the general formula $Li_{1-x}Mn_{1-y}M'_yO_{2-\delta}$ is further represented by a general formula $Li_{1-x}Mn_{1-y}M'_{y(1-z)}M''_{yz}O_{2-\delta}$,

where the M'' is at least one metal substituting for the M', the z is a substitution quantity thereof, and is a rational number represented by a ratio of e/f (z = e/f), and

each of the e and f is a natural number ranging from 1 to 30 and the e and f satisfy: e < f.

18. The positive electrode active material according to claim 16, wherein the general formula $Li_{1-x}Mn_{1-y}M'_yO_{2-\delta}$ is further represented by a general formula $Li_{1-x}Mn_{1-y}M'_{y(1-z)}M''_{yz}O_{2-\delta}$,

where the M'' is at least one metal substituting for the M', the z is a substitution quantity thereof, and is a rational number represented by a ratio of e/f (z = e/f), and

each of the e and f is a natural number ranging from 1 to 30, and the e and f satisfy: e < f.

19. A method of preparing the positive electrode active material of claim 1, comprising:

mixing a lithium compound and a manganese compound in a ratio equivalent to a composition ratio of Li and Mn in a general formula; and

baking a mixture obtained in the mixing step in an atmosphere with an oxygen concentration of 1000 ppm or lower.

20. A rechargeable lithium-ion battery, comprising:

a positive electrode containing the positive electrode active material according to claim 1;

a negative electrode containing at least one selected from the group consisting of a Li metal, complex oxide, nitride and a carbon material; and

an electrolyte interposed between the positive and negative electrodes.